

CLAIMS

I claim:

*See A1*

1. A system for measuring the weight of an occupant seated on a vehicle seat comprising:

- 5 a first track mounted to a vehicle structure;
- a second track supported for movement relative to said first track and being deflectable in a vertical direction due to an occupant weight force; and
- at least one sensor mounted on one of said tracks for generating a signal representative of said occupant weight force.

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2. A system according to claim 1 including a central processor for receiving said signal.

3. A system according to claim 2 including an airbag control module in
- 15 communication with said processor wherein deployment force of an airbag is controlled by said control module based on seat occupant weight.

- See A2*
- 20 4. A system according to claim 3 wherein said first track includes a forward end and a rearward end with a central track portion extending between said ends, said forward and rearward ends being mounted to the vehicle structure such that said central track portion remains unsupported to form gap between the vehicle structure and the central track portion.

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5. A system according to claim 4 wherein said sensor is positioned along said central track portion.

5 6. A system according to claim 5 wherein said at least one sensor is comprised of a first sensor positioned forwardly on said central track portion and a second sensor positioned rearwardly on said central track portion, said first and second sensors for measuring deflection of said second track to generate said signal.

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10 7. A system according to claim 6 including a third track mounted to a vehicle structure, a fourth track supported for movement relative to said third track and being deflectable in a vertical direction due to an occupant weight force, and a third sensor mounted on one of said third or fourth tracks working with said first and second sensors to generate said signal, said first second tracks forming an inboard  
15 track assembly and said third and fourth tracks forming an outboard track assembly.

8. A system for measuring the weight of an occupant seated on a vehicle seat comprising:

an inboard track assembly mounted to a vehicle structure;

an outboard track assembly spaced apart from said inboard track assembly and  
5 mounted to the vehicle structure;

a first sensor assembly mounted to said inboard track assembly for generating a first signal in response to measuring deflection of said inboard track assembly due to seat occupant weight;

a second sensor assembly mounted to said outboard track assembly for  
10 generating a second signal in response to measuring deflection of said outboard track assembly due to seat occupant weight; and

a central processor for determining seat occupant weight based on said first and second signals.

15 9. A system according to claim 8 wherein said inboard and outboard track assemblies have a predetermined cross-sectional area with each track assembly having at least one track portion having a cross-sectional area that is less than said predetermined cross-sectional area, said first and second sensor assemblies being mounted on said track portion.

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10. A system according to claim 9 wherein said inboard and outboard track assemblies each include a forward end and a rearward end with a central portion extending between said ends, said ends being mounted to the vehicle structure such that said central portions are unsupported forming a gap between the vehicle structure  
5 and the track assemblies.

11. A system according to claim 10 wherein said track portion having a cross-sectional area that is less than said predetermined cross-sectional area is located in said central portion

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12. A system according to claim 10 wherein said at least one track portion of each of said track assemblies is comprised of a first track portion located forwardly in said central portion and a second track portion located rearwardly in said central portion and wherein said first and second sensor assemblies each include a first sensor  
15 mounted on said first track portion and a second sensor mounted on said second track portion.

13. A system according to claim 10 including an airbag control module in communication with said processor wherein deployment force of an airbag is  
20 controlled by said control module based on seat occupant weight.

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14. A method for determining the weight of a seat occupant comprising the steps of:

providing an inboard seat track assembly mounted to a vehicle structure and an outboard seat track assembly spaced apart from the inboard seat track assembly and  
5 mounted to the vehicle structure where the inboard and outboard seat track assemblies are defined by a predetermined cross-sectional area and each track assembly has at least one track segment with a cross-sectional area that is less than the predetermined cross-sectional area;

10 mounting a first sensor assembly in the track segment of the inboard seat track assembly;

mounting a second sensor assembly in the track segment of the outboard seat track assembly;

generating a first signal from the first sensor assembly in response to deflection of the inboard track assembly due to seat occupant weight;

15 generating a second signal from the second sensor assembly in response to deflection of the outboard track assembly due to seat occupant weight; and

combining the first and second signals to determine seat occupant weight.

15. A method according to claim 14 including the step of providing a  
20 system controller for controlling deployment of an airbag; generating a seat occupant weight signal based on the combination of the first and second signal; transmitting the seat occupant weight signal to the controller; and controlling a deployment force of the

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airbag based on the seat occupant weight.

16. A method according to claim 14 including the steps of providing the inboard and outboard track assemblies with forward ends and rearward ends interconnected by a center portion and fixing the forward and rearward ends to a vehicle structure such that the center portion of each track assembly remains unsupported.

17. A method according to claim 16 including the step of locating the track segment in the center portion.

18. A method according to claim 14 wherein the first sensor assembly is comprised of a first sensor mounted rearwardly within the inboard seat track assembly and a second sensor mounted forwardly within the inboard seat track assembly and wherein the second sensor assembly is comprised of a third sensor mounted rearwardly within the outboard track assembly and a fourth sensor mounted forwardly within the outboard track assembly.

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